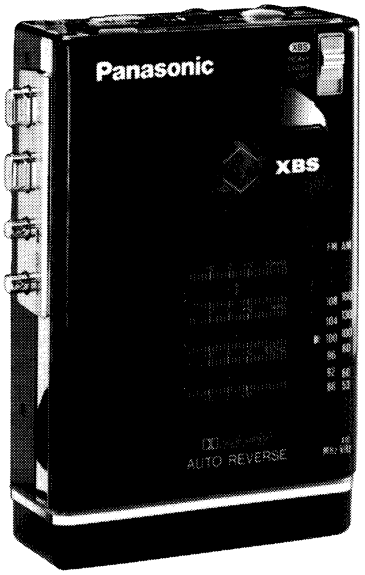
ORDER NO. GAD8712228C2

Service Manual

Radio Cassette

Stereo Radio Cassette Player

RX-SA79



Color

(K).....Black Type

Area

color	area
(K)	[Z].....For All European areas except United Kingdom.
(K)	[ZE].....For United Kingdom.

RX-SA79 Mechanism Series

■ SPECIFICATIONS

General:

Power Requirement:	Battery; 1.5V(One UM-3,"AA" Size Penlight Battery) (Panasonic UM-3 or equivalent)
Power Output:	7mW(3.5mWx2) ... RMS(max.)
Input:	DC IN; 1.5V(mini jack)
Output:	Headphones; 35Ω ø3.5
Dimensions:	85.5x122.5x32mm
Weight:	227g without batteries

Radio Section:

Radio Frequency Range:	FM; 87.5~108MHz AM; 520~1610kHz
Intermediate Frequency:	FM; 10.7MHz AM; 455kHz...[Z] 470kHz...[ZE]
Sensitivity:	FM; 3μV/0.04mW output (-3dB Limit Sens) AM; 100μV/m/0.04mW output

Tape Deck Section:

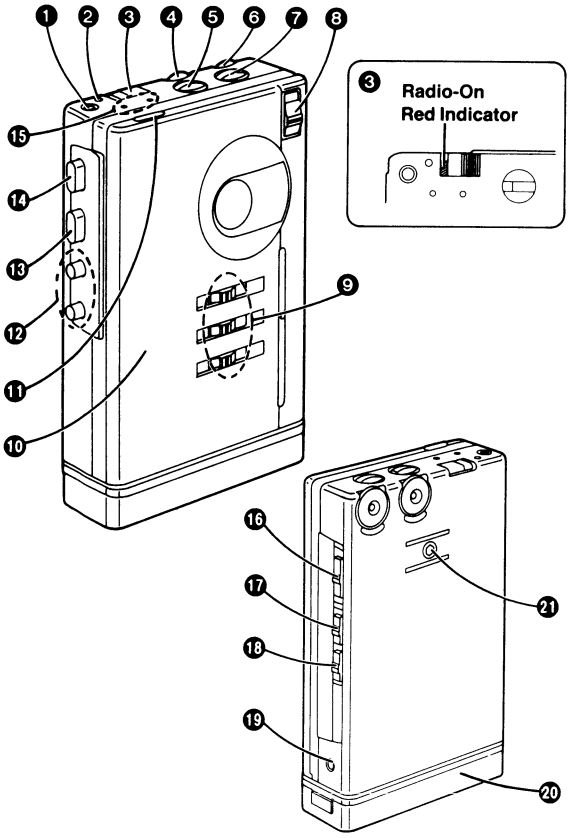
Frequency Response:	Normal; 20~15,000Hz CrO2; 20~15,000Hz Metal; 20~15,000Hz
Motor:	Electrical governor motor
Track System:	4-track 2-channel stereo playback
Tape Speed:	1-7/8ips(4.8cm/s)

Weights and dimensions shown are approximate.
Design and specifications are subject to change without notice.

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

■ LOCATION OF CONTROLS



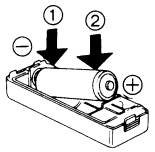
❶ **Headphones Jack ( ) [35Ω/φ3.5]**
❷ **Tape/Battery Check Indicator (TAPE/BATT)**
The Tape/Battery Check Indicator will light during tape operation only.
❸ **Function Selector (SELECTOR)**
The Radio-On Red Indicator will appear during radio operation.
❹ **Tuning Control (TUNING)**
❺ **Reverse Mode Selector (REV. MODE)**
❻ **Volume Control (VOL)**
❼ **Direction Button (DIRECTION)**
❽ **XBS Switch (XBS)**
❾ **Graphic Equalizer Controls**
❿ **Cassette Compartment**
⓫ **Cassette Compartment Cover Open Button (OPEN)**
⓬ **Fast Buttons (◀◀ FAST ▶▶)**
⓭ **Stop Button (■ STOP)**
⓮ **Playback Button (◀▮▶ PLAY)**
⓯ **Direction Indicators (FWD • REV)**
⓰ **Band Selector (BAND)**
⓱ ***Dolby Noise Reduction Switch (DOLBY NR)**
⓲ **Tape Selector (TAPE)**
⓳ **DC Input Jack (DC IN 1.5 V ⊖-◉-⊕)**
⓴ **Battery Case**
㉑ **Belt Clip Fixation Hole**

*"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

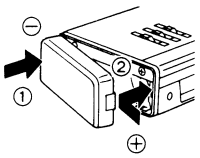
POWER SOURCE

■ Battery Operation

1. Insert a "AA" size (Panasonic UM-3 or equivalent, not included) battery into the Battery Case (included), making sure that the proper polarity is maintained.

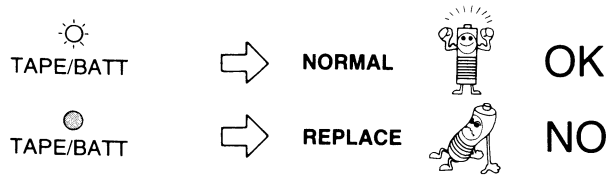


2. Attach the Battery Case to the unit, making sure that the proper polarity is maintained.



•Battery life

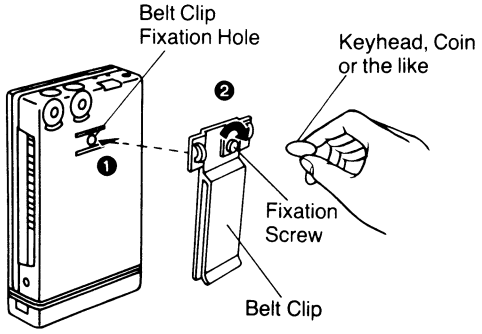
When the battery becomes weak, the tape speed will slow down, the sound will become distorted, and the volume will decrease.
To check the condition of the battery;
1. Press the Playback Button.
2. When the Tape/Battery Check Indicator goes out or dims, it is time to replace the battery with new one.



To Prevent Possible Damage to this Unit

- Load new battery with its polarity (⊕ and ⊖) aligned correctly.
- Do not apply heat to battery or internal short-circuit may occur.
- If this unit is not to be used for a long period of time, or used on AC mains supply, remove the battery and store it in a cool and dry place.
- Remove spent battery immediately and dispose of it.

BELT CLIP



■ DISASSEMBLY INSTRUCTIONS

Disassemble and assemble the unit with care since a flexible printed circuit board is used.

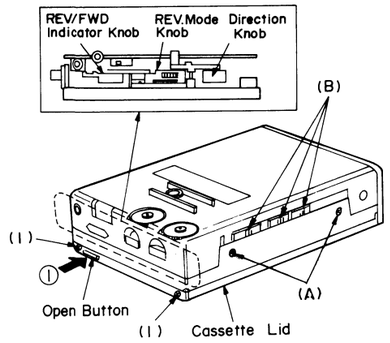


Fig. 1

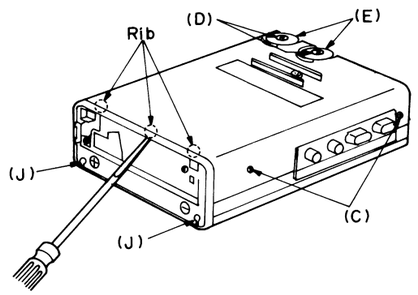


Fig. 2

■ Remove the Rear Cabinet

1. Remove the screw (A) (1.4 × 3.5) mm × 2. (Fig. 1)
2. Remove the knob (B) × 3 with ⊖ screwdriver. (Fig. 1)
3. Remove the screw (C) (1.4 × 2.5) mm × 2. (Fig. 2)
4. Remove the screw (D) (1.4 × 4.5) mm × 2. (Fig. 2)
5. Remove the knob (E) × 2. (Fig. 2)
6. Remove the rib with ⊖ screwdriver. (Fig. 2)

Note: When detaching the rear cabinet, be careful not to lose the REV/FWD indicator, REV. Mode and Direction knobs since they also detach at the same time. (Refer to Fig. 1)

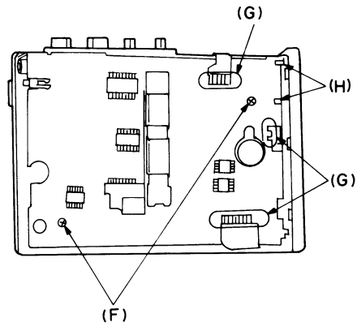


Fig. 3

■ Remove the Main Circuit Board

1. Remove the screw (F) (1.4 × 2.5) mm × 2. (Fig. 3)
2. Remove the solder (G) from flexible PC board. (Fig. 3)
3. Remove the solder point (H) × 2. (Fig. 3)

■ Remove the Cassette Lid

1. Remove the screw (I) (1.4 × 2.5) mm × 2. (Fig. 1)

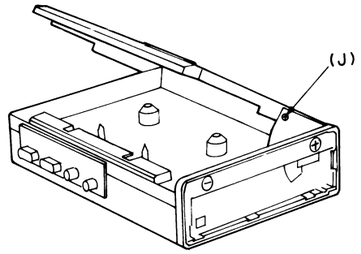


Fig. 4

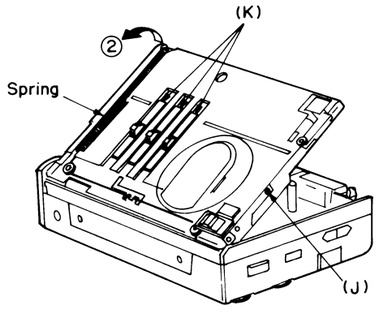


Fig. 5

■ Remove the Cassette Holder & Graphic Equalizer PC board.

1. Push the open button in the direction of the arrow ①. (Fig. 1)
2. Remove the screw (J) (1.4 × 2.5) mm × 4. (Fig. 2 • 4 and 5)
3. Remove the spring in the direction of the arrow ②. (Fig. 5)
4. Remove the knob (K) × 3. (Fig. 5)
5. Remove the screw (L) (1.4 × 2.5) mm × 5. (Fig. 6)
6. Remove the solder (M) from flexible PC board. (Fig. 6)

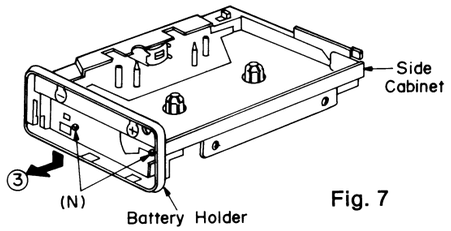


Fig. 7

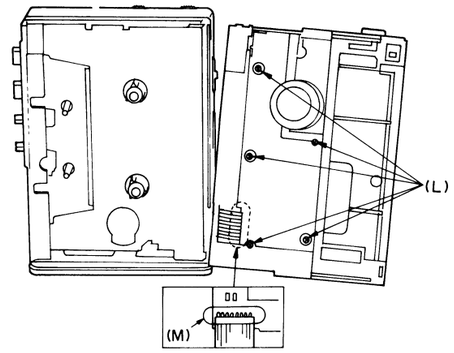


Fig. 6

■ Remove the Battery Holder

1. Remove the screw (N) (1.4 × 2.5) mm × 2. (Fig. 7)
2. Remove the Battery Holder in the direction of the arrow ③. (Fig. 7)

■ DIAL THREADING AND DIAL SETTING POINT

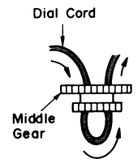


Fig. 1

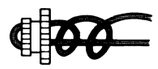


Fig. 2

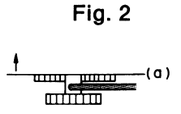


Fig. 3

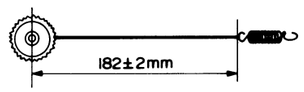


Fig. 4

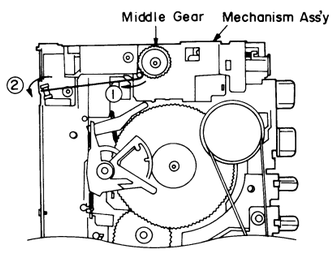


Fig. 5

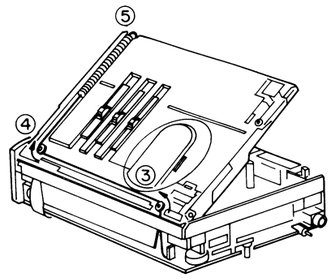


Fig. 6

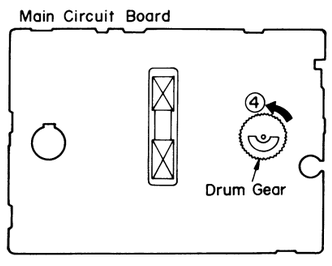


Fig. 7

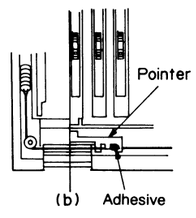


Fig. 8

■ Dial Threading

1. Tie one end of the dial cord to the middle gear, and tie the other end of the cord to the spring (see Figs. 1, 2, and 4).
2. Adjust the length of the dial cord to 182 ± 2 mm from the center of the middle gear to the knot on the spring (see Fig. 4).

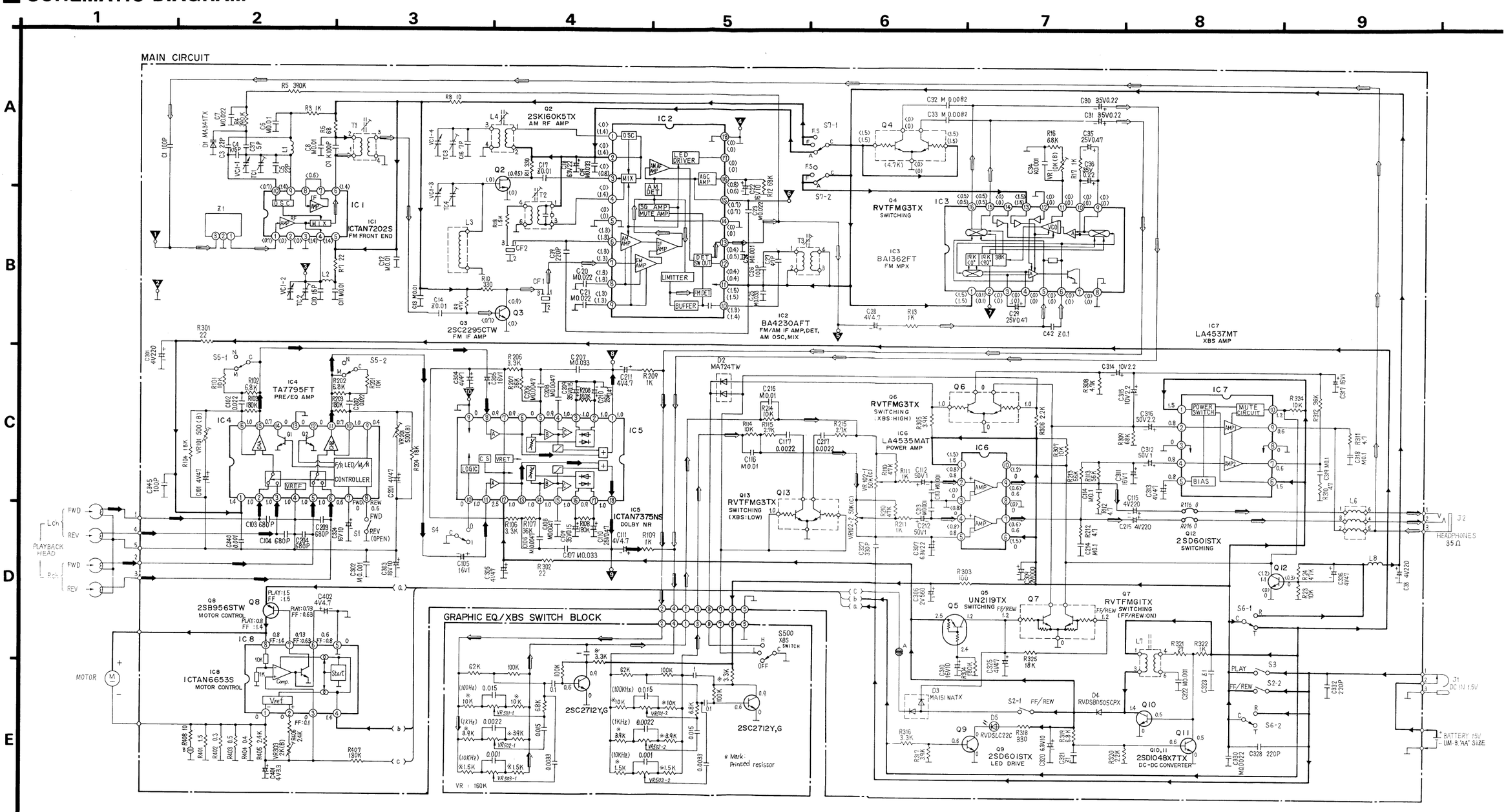
Note: When tying the dial cord to the middle gear, cut the knot so that it does not protrude from the line "a" in Fig. 3.

3. Thread the dial cord following the numbered sequence shown in Figs. 5 and 6.

■ Dial Setting Point

1. Turn the drum gear fully in the direction of the arrow ④ (see Fig. 7).
2. Mount the main circuit board on the mechanism assembly.
3. With the pointer aligned with line (b), set it on the dial cord (see Fig. 8).

■ SCHEMATIC DIAGRAM



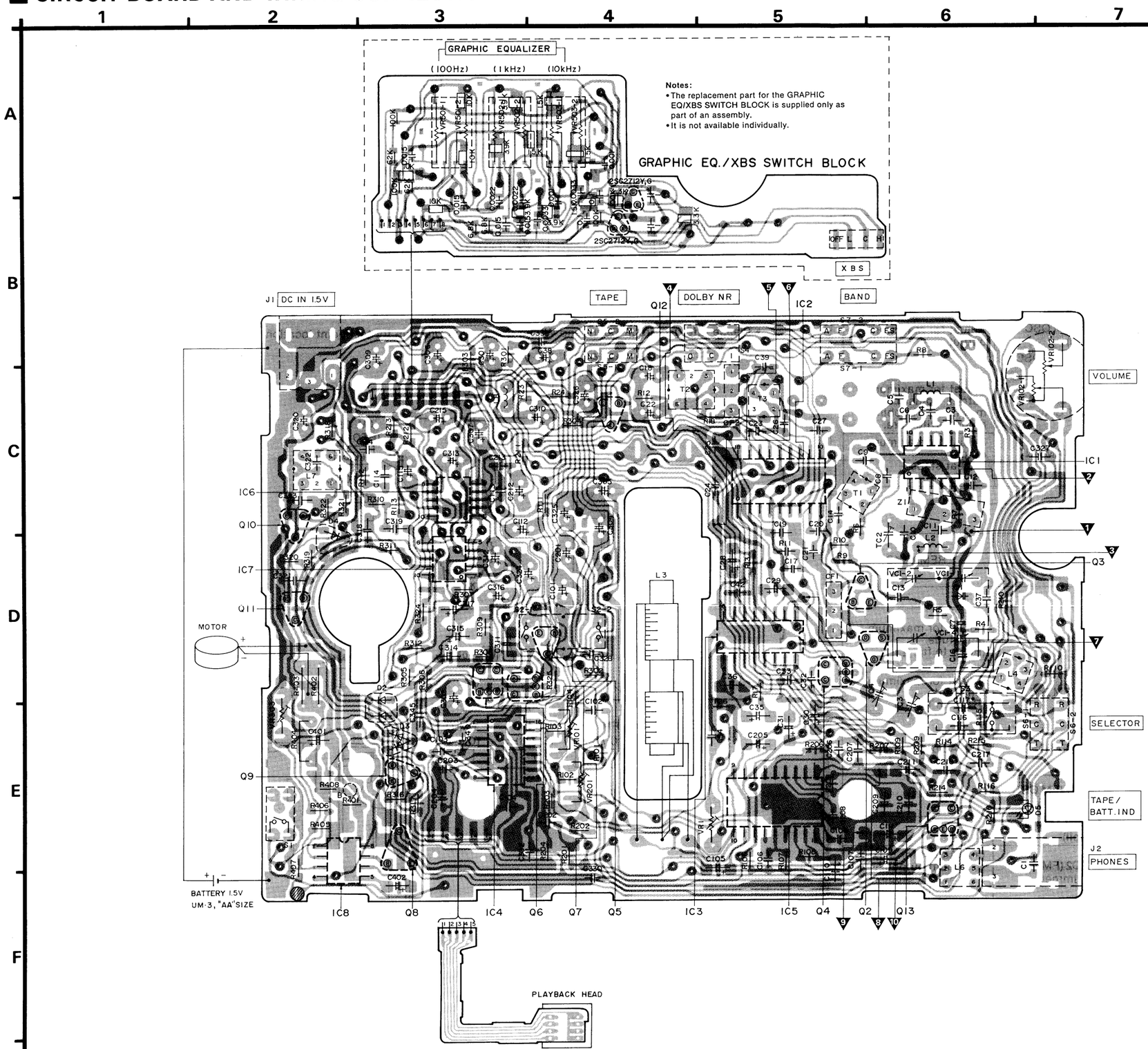
Notes:

1. S1: FWD/REV switch in "OFF (Rev)" position.
2. S2-1, S2-2: FF/REW switch in "OFF" position.
3. S3: Play switch in "OFF" position.
4. S4-1, S4-2: Dolby NR switch in "DX" position. (I...IN, O...OUT)
5. S5-1, S5-2: Tape selector switch in "CrO_2/METAL" position. (N...Normal, M...CrO_2/METAL)
6. S6-1, S6-2: Function selector switch in "TAPE" position. (T...Tape, R...Radio)
7. S7-1, S7-2: Band selector switch in "AM" position. (A...AM, F...FM, F.S...FM ST)
8. S500: XBS selector switch in "OFF" position. (OFF...OFF, L...Light, H...HEAVY)
9. VR1 FM VCO Frequency adjustment VR.
10. VR101, 201: Playback gain adjustment VR.
11. VR102-1, 102-2: Volume control VR.
12. VR303: Tape speed adjustment VR.
13. VR501-1•VR501-2～VR503-1•VR503-2: Graphic equalizer VR.
14. The mark (▼) showns test point e.g. ▼1 =test point 1.
15. DC voltage measurement are taken with electronics voltmeter from negative terminal of battery.
    ( )...Radio (AM) position, < >...Radio (FM) position
    No mark...Playback position,
16. Battery current: No signal (FM) ..... 23.1mA (FM), 19.9mA (AM)
    Maximum output (radio) ..... 26.9mA (FM), 22.0mA (AM)
    Maximum output (tape) ..... 140.8mA (VR max)
    Maximum output (tape) ..... 130.7mA (VR min)

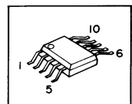
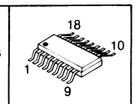
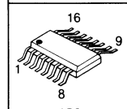
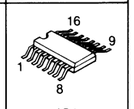
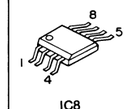
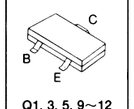
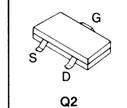
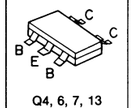
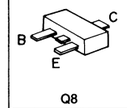
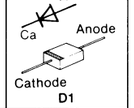
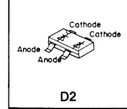
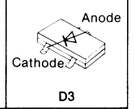
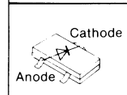
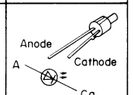
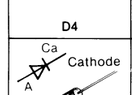
- **This schematic diagram may be modified at any time with the development of new technology.**

▼ Be sure to fold at the (▼) mark so that mark is on the outside.

■ CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



Notes:
- The replacement part for the GRAPHIC EQ/XBS SWITCH BLOCK is supplied only as part of an assembly.
- It is not available individually.

 IC1, 6, 7	 IC2, 5
 IC3	 IC4
 IC8	 Q1, 3, 5, 9~12
 Q2	 Q4, 6, 7, 13
 Q8	 D1
 D2	 D3
 D4	 D5
 D10	

Notes:
1. The symbols ( ) shown in the circuit board indicate printed resistor.
2. The circuit shown in ( ) on the conductor indicates printed circuit on the back side of the printed circuit board.
3. The circuit shown in ( ) on the conductor indicates printed circuit on the front side of the printed circuit board.
4. The symbols (●) shown in the circuit board indicate connection points between conductors on the front side and back side of the circuit board.

- **This circuit board diagram may be modified at any time with the development of new technology.**

■ MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT	
1. Set volume control to maximum.	6. Set power source voltage to 1.5V DC.
2. Set equalizer control to center.	7. Set Dolby NR switch to OUT.
3. Set XBS selector switch to OFF.	8. Set Tape Selector Switch to normal.
4. Set band switch to AM or FM ST.	9. Output of signal generator should be no higher than necessary to obtain an output reading.
5. Set selector switch to radio.	

■ AM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT POINT (Refer to Fig. 1)	REMARKS
		CONNECTIONS	FREQUENCY				
		AM-IF ALIGNMENT					
(1)	AM	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455kHz...(Z) 470kHz...(ZE) 30% Mod. at 400 Hz	Point of non-interference. (on/ about 600kHz)	Headphone Jack (35Ω)	T2 (AM IFT)	Adjust for maximum output.
		AM-RF ALIGNMENT					
(2)	AM	〃	511kHz	Tuning capacitor fully closed.	〃	L4 (AM OSC Coil)	Adjust for maximum output.
(3)	AM	〃	1,650kHz	Tuning capacitor fully open.	〃	TC3 (AM OSC Trimmer)	〃
(4)	AM	〃	550kHz	Tune to signal.	〃	(*1) L3 (AM ANT Coil)	Adjust for maximum output. Adjust L3 by moving coil bobbin along ferrite core.
(5)	AM	〃	1,500kHz	〃	〃	TC4 (AM ANT Trimmer)	Adjust for maximum output. Repeat steps (2)~(5).
	(*1) Cement antenna bobbin with wax after completing alignment.						

■ FM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT POINT (Refer to Fig. 1)	REMARKS
		CONNECTIONS	FREQUENCY				
		FM-IF ALIGNMENT					
(1)	FM	High side thru. 0.001μF to test point ③. Negative side to test point ②.	10.7MHz (SWP.)	Point of non-interference. (on/ about 90MHz)	Connect vert. amp. of scope to test point ③. Negative side to test point ④.	T1 (FM 1st IFT)	Adjust for maximum amplitude. (Refer to fig. 2.)
(2)	FM	〃	〃	〃	〃	T3 (FM 2nd IFT)	Adjust for maximum amplitude. (Refer to fig. 3.)
		FM-RF ALIGNMENT					
(3)	FM	Connect to test point ① through FM dummy antenna. Negative side to test point ②.	86.2 MHz	Variable capacitor fully closed.	Headphone Jack (35Ω)	L1 (FM OSC Coil)	(*2) Adjust for maximum output.
(4)	FM		109.2MHz	Variable capacitor fully open.	〃	TC1 (FM OSC Trimmer)	〃
(5)	FM		90MHz	Tune to signal.	〃	L2 (FM ANT Coil)	〃
(6)	FM		106MHz	〃	〃	TC2 (FM ANT Trimmer)	(*2) Adjust for maximum output. Repeat steps (3)~(6).
	(*2) Three output responses will be present; proper tuning is the center frequency.						

■ SEPARATION ALIGNMENT

ITEM	FM SIGNAL GENERATOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT POINT (Refer to Fig. 1)	SPECIFICATION	REMARKS
Adjustment of pilot signal.	98MHz, 60dB (CW) Connect to test point ① through FM dummy antenna. Negative side to test point ②.	③...(+) ④...(−)	VR1	19kHz	Adjust VR1, for 19kHz (±50Hz) reading on electronics counter.

■ ALIGNMENT INSTRUCTION

ITEM	INPUT	MEASUREMENT POINT	ADJUSTMENT POINT	PROCEDURE
(A) Azimuth	QZZCFM (8kHz, −20dB)	Headphones jack (35Ω)	Azimuth adjustment screw (Refer to Fig. 4)	Adjust the azimuth adjustment screw during repeated forward and reverse playback to obtain the maximum head azimuth alignment with both channels equal. Then screw-lock the adjustment in place.
(B) Tape speed	QZZCWAT (3kHz, −10dB)	〃	VR303 (Refer to Fig. 5)	Playback the central part of the tape and adjust VR303 so that the tape speed is as follows. 3000±60Hz (Forward & Reverse)
(C) Playback gain	QZZCFM (315 Hz, 0 dB)	⑨...(+) L-CH ⑩...(−) ⑨...(+) R-CH	VR101 (L-CH) VR201 (R-CH) (Refer to Fig. 5)	Playback any part of the tape and adjust VR101 and VR201 so that the playback gain is 72±8mV.

■ ALIGMENT POINTS

• Please refer to Circuit Board and Wiring Connection Diagram for test point locations

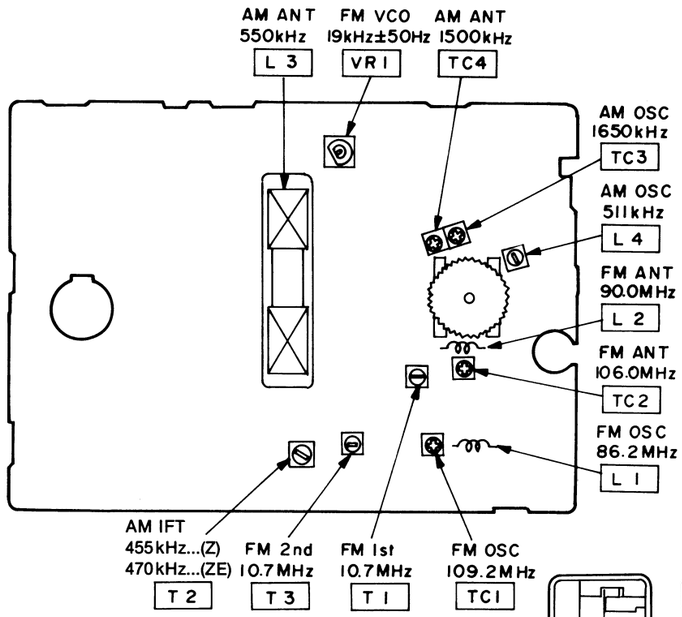


Fig. 1

Fig. 4

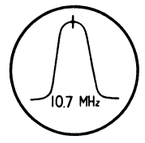


Fig. 2

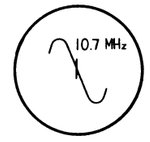


Fig. 3

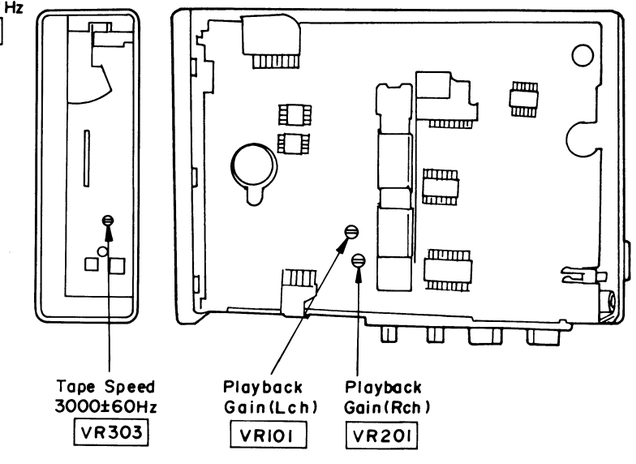
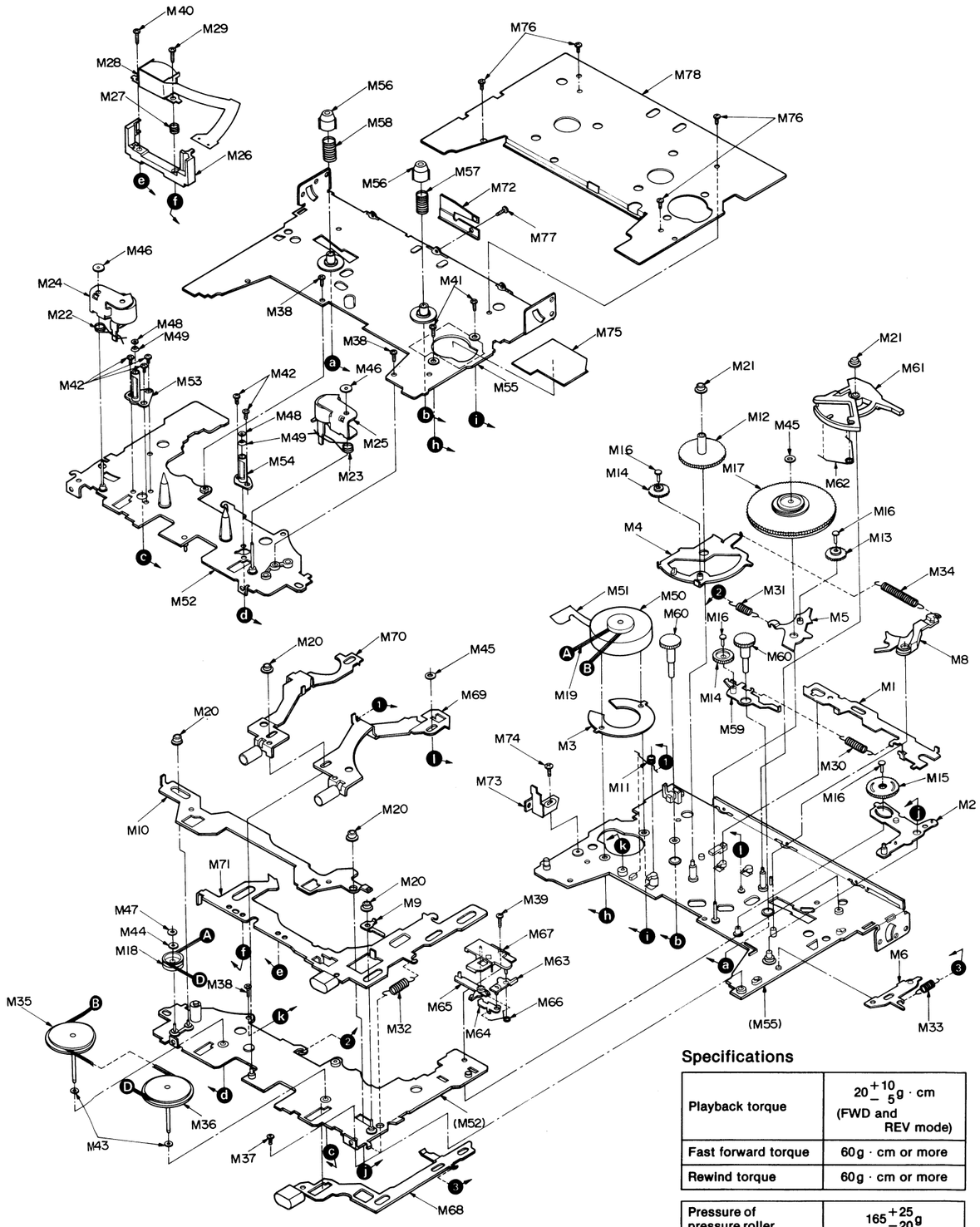


Fig. 5

■ MECHANISM PARTS LOCATION



Specifications

Playback torque	20^{+10}_{-5} g · cm (FWD and REV mode)
Fast forward torque	60g · cm or more
Rewind torque	60g · cm or more

Pressure of pressure roller	165^{+25}_{-20} g
Wow and flutter	0.22% (WRMS)

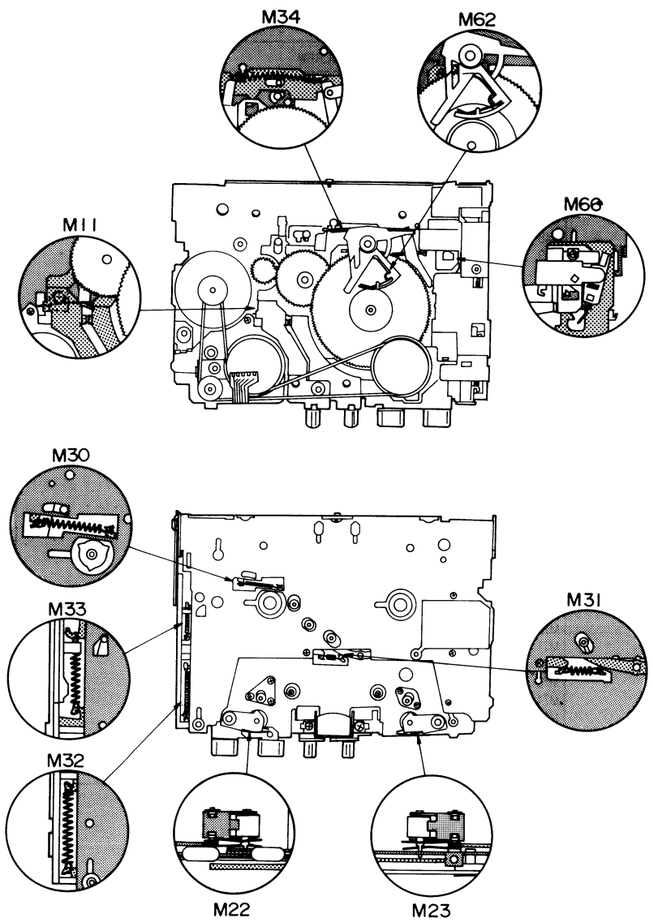
■ MECHANISM PARTS LIST

Ref. No.	Part No.	Description
MECHANISM		
CASSETTE DECK		
M1	RNR69ZA	ROD
M2	RNL157ZA	LEVER
M3	RMC1164ZA	SHIELD PALTE
M4	RNL151ZA	LEVER
M5	RNL153ZA	LEVER
M6	RNL159ZA	LEVER
M8	RNL165ZA	LEVER
M9	RNL160ZA	LEVER
M10	RNR66ZA	ROD
M11	RUW151ZA	SPRING
M12	RDG5761Y	GEAR
M13	RNG109ZA	GEAR
M14	RNG110ZA	GEAR
M15	RNG113ZA	GEAR
M16	RHRK537ZA	PIN
M17	1NGAKAR50ZA	GEAR ASS'Y
M18	RDR0085ZB	PULLEY
M19	RDV94ZA	BELT
M20	RHR3131ZA	BUSH
M21	RHR1282Z	BUSH
M22	RUW149ZA	SPRING
M23	RUW150ZA	SPRING
M24	2NLAKAR50ZA	PINCH ROLLER ASS'Y
M25	3NLAKAR50ZA	PINCH ROLLER ASS'Y
M26	RUG116ZA	GUIDE
M27	RUQ1Z	SPRING
M28	1JH0026ZAM	HEAD ASS'Y
M29	RHE5076Z	SCREW
M30	RUD7Z	SPRING
M31	RUD108ZA	SPRING
M32	RUD109ZA	SPRING
M33	RUD110ZA	SPRING
M34	RUD111ZA	SPRING
M35	2DWAKAR50ZA	FLYWHEEL ASS'Y
M36	1DWAKAR50ZA	FLYWHEEL ASS'Y
M37	XQS14+AF39FZ	SCREW
M38	XQN14+A3FZ	SCREW
M39	XQN14+C45FZ	SCREW
M40	XQN14+C5	SCREW
M41	XQN17+A2FZ	SCREW
M42	XQS14+A16FN	SCREW
M43	RNW151Z	WASHER
M44	QBK92060	WASHER
M45	RNW131Z	WASHER
M46	QBW2129	WASHER
M47	RNW124Z	WASHER
M48	RNW103ZA	WASHER
M49	RHRK540ZA	SPACER
M50	MKFN-26NA1KX	MOTOR ASS'Y
M51	RUP2374ZA	F.W.C
M52	1UAAKAR50ZA	CHASSIS ASS'Y
M53	1DFAKAR50ZA	METAL ASS'Y
M54	RDF9004Y	METAL ASS'Y
M55	3UAAKAR50ZA	CHASSIS ASS'Y
M56	RDM4ZB	REEL TABLE
M57	RUQ100ZA	SPRING
M58	RUQ73ZA	SPRING
M59	RNL155ZA	LEVER
M60	RDG5764ZBR	GEAR
M61	RNL167ZA	LEVER
M62	RUW152ZA	SPRING
M63	RNL161ZA	LEVER
M64	RNL162ZA	LEVER
M65	RNL166ZA	LEVER
M66	RUW153ZA	SPRING
M67	RUG115ZA	GUIDE
M68	1NRAAR50ZA	ROD ASS'Y
M69	2NRAAR50ZA	ROD ASS'Y
M70	3NRAAR50ZA	ROD ASS'Y
M71	1UAAAR50ZA	HEAD BASE ASS'Y
M72	RUS617Z	SPRING
M73	RJT1111ZA	TERMINAL
M74	XQN14QA18FZ	SCREW
M75	RHR2171ZA	COVER
M76	RHE5067Z	SCREW
M77	RHE5080Z	SCREW
M78	RGX1750ZA-0	MECHANISM COVER

■ ACCESSARY AND PACKING MATERIALS

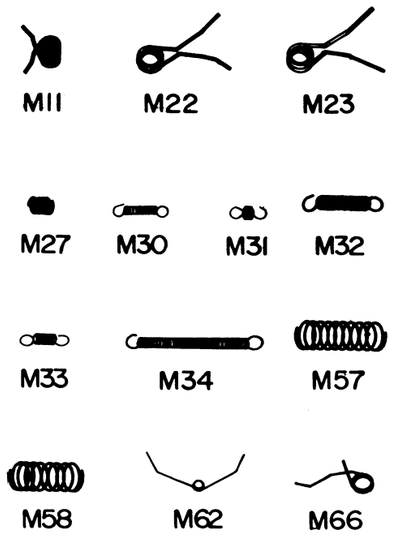
Ref. No.	Part No.	Description
PACKING MATERIAL		
P1	RPH600ZA	PROTECTION BAG
P2	RPH608ZA	SHEET
P3	RPN5384YA	CUSHION
P4	RPN5385ZA	CUSHION
P5	RPK2653ZA	GIFT BOX
P6	XZB10X9A04	POLYETHYLENE COVER
P7	RPE684ZA	CUSHION
ACCESSORIES		
A1	1QBASA79ZA-0	BELT HOLDER ASS'Y
A5	RP-HT100MR-0	HEADPHONE
A6	RQX5102ZA	INST. MANUAL
P8	RPE716ZA	CUSHION

■ SPRING LOCATION

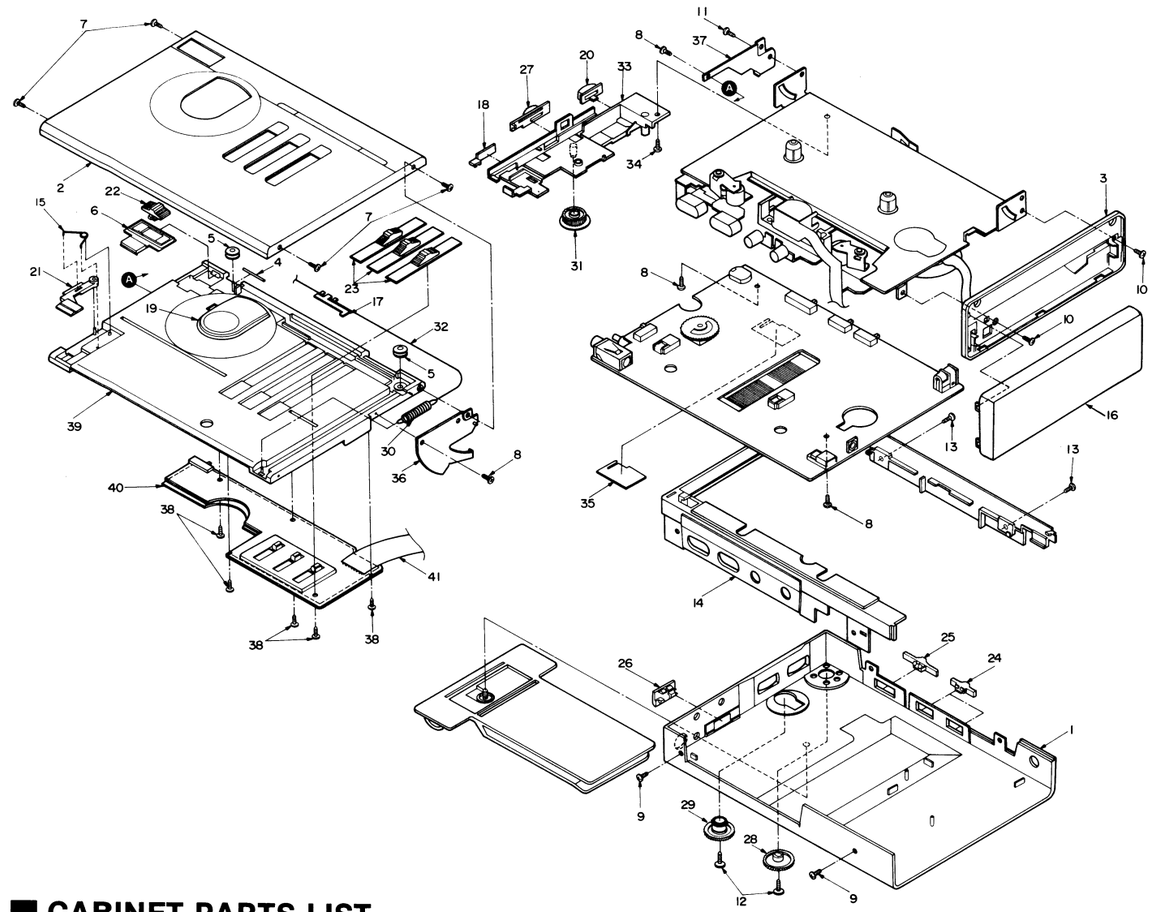


■ SPRING ILLUSTRATION

The spring illustration used shows the actual size so it can be used to check the shape of the spring.
(The illustration shows the spring separated from the mechanism.)



■ CABINET PARTS LOCATION



■ CABINET PARTS LIST

Notes : * Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Description
CABINET AND CHASSIS		
1 (Z)	1KFESA79ZA-0	REAR CABINET ASS'Y
1 (ZE)	1KFFSA79ZA-0	REAR CABINET ASS'Y
2 (Z)	1KGESA79ZA-0	CASSETTE LID ASS'Y
2 (ZE)	1KGFSA79ZA-0	CASSETTE LID ASS'Y
3	1KEASA79ZA-0	BATTERY HOLDER ASS'Y
4	RDF1001ZA	SHAFT
5	RDR32Z	ROLLER
6	RHR2163ZA-0	HOLDER
7	RHE5068Z	SCREW
8	RHE5119Z	SCREW
9	RHE5155YA	SCREW
10	RHE5155ZA	SCREW
11	RHE5164ZA	SCREW
12	RHE5174YA	SCREW
13	RHE5169ZA	SCREW
14	RKM1086YA-0	CABINET BODY
15	RUS756ZA	SPRING
16	RP-BA104XR-0	BATTERY CASE ASS'Y
17	RDP344ZA-0	POINTER
18	RGK1361ZA-0	ORNAMENT
19	RGP1185YA-0	PANEL
20	RBC1287ZA-0	KNOB, DIR
21	RBC1298ZA-0	KNOB, OPEN
22	RBD508ZA-0	KNOB, XBS
23	RBD510YA-0	KNOB, G.EQ
24	RBD511ZA-0	KNOB, DOLBY NR
25	RBD512ZA-0	KNOB, BAND
26	RBD513ZA-0	KNOB, SELECTOR
27	RBD514ZA-0	KNOB, REV.MODE
28	RBT313ZA-0	KNOB, VOL
29	RBT314ZA-0	KNOB, TUNING
30	RUD112ZA	SPRING
31	RDG5924ZA	GEAR
32	RDZ03Y	CORD
33	RZAXSA79M	CHASSIS ASS'Y
34	RHE5155ZA	SCREW
35	RMC1191ZA	SHIELD PLATE
36	1ULASA79ZA	ANGLE ASS'Y
37	RUL1032ZA	ANGLE
38	RHE5119YA	SCREW
39	RKG226ZA-0	CASSETTE HOLDER
40	RGX1757ZA-0	COVER
41	RUP2365ZB	F.W.C
42	RHE5184YA	SCREW

■ RESISTOR AND CAPACITOR PARTS LIST

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Numbering System of Resistor

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1KΩ)
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470Ω)

Numbering System of Capacitor

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001μF)	Tolerance	Peculiarity
ECEA	50	M	330	
Type	Voltage (50V)	Pecliarity	Value (33μF)	

- Capacity are in microfarads (μF) unless specified otherwise, P = Pico-farads (pF) F = Farads (F).
- Resistance are in ohms (Ω), unless specified otherwise, 1K = 1,000Ω, 1M = 1,000kΩ

Resistor Type	Wattage		Tolerance
ERD : Carbon	10 : 1/8W	12 : 1/2W	J : ±5%
ERG : Metal Oxide	14 : 1/4W	25 : 1/4W	F : ±1%
ERQ : Fuse Type Metal	1A : 1W	18 : 1/8W	G : ±2%
ERX : Metal Film	S2 : 1/4W	S1 : 1/2W	J : ±5%
ERD L : Carbon (chip)	2F : 1/4W	50 : 1/2W	K : ±10%
ERO K : Metal Film (chip)	2A : 2W	3A : 3W	M : ±20%
ERC : Solid	6G : 1/10W	8G : 1/8W	
ERF : Incombustible Box-Shaped			
ERM : Wire-Wound			
RRJ : Cip Resistor			
ERJ : Cip Resistor			

Capacitor Type	Voltage		Tolerance
ECE : Electrolytic	0J : 6.3V	1A : 10V	K : ±10%
ECCD : Ceramic	1C : 16V	1E : 25V	M : ±20%
ECKD : Ceramic Capacitor	1H : 50V	1V : 35V	Z : +80 % −20
ECQM : Poyester	50 : 50V	05 : 50V	J : ±5%
ECQP : Polypropylene	2H : 500V	2A : 100V	G : ±2%
ECG : Ceramic	1 : 100V	1J : 63V	F : ±1%
ECEA N : Non Polar Electrolytic	KC : 400V AC		C : ±0.25pF
QCU : Ceramic (Chip Type)	KC : 125V AC (UL)		D : ±0.5pF
ECUX : Ceramic (Chip Type)			
ECF : Semiconductor			
EECW : Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Value.
RESISTORS(VALUE,WATTAGE)		
R3	RRJ6GCJ102TE	1K 1/10
R4	RRJ6GCJ394TE	390K 1/10
R5	RRJ6GCJ394TE	390K 1/10
R6	RRJ6GCJ680TE	68 1/10
R7	RRJ6GCJ220TE	22 1/10
R8	RRJ6GCJ100TE	10 1/10
R9	RRJ6GCJ473TE	47K 1/10
R10	RRJ6GCJ331TE	330 1/10
R11	RRJ6GCJ331TE	330 1/10
R12	RRJ6GCJ683TE	68K 1/10
R13	RRJ6GCJ102TE	1K 1/10
R16	RRJ6GCJ682TE	6.8K 1/10
R17	RRJ6GCJ102TE	1K 1/10
R18	RRJ6GCJ152	1.5K 1/10
R23	RRJ6GCJ103TE	10K 1/10
R24	RRJ6GCJ473TE	47K 1/10
R101	RRJ6GCJ103TE	10K 1/10
R102	RRJ6GCJ682TE	6.8K 1/10
R103	RRJ6GCJ184TE	180K 1/10
R104	RRJ6GCJ183TE	18K 1/10
R106	RRJ6GCJ332TE	3.3K 1/10
R107	RRJ6GCJ363TE	36K 1/10
R108	RRJ6GCJ184TE	180K 1/10
R109	RRJ6GCJ102TE	1K 1/10
R110	RRJ6GCJ473TE	47K 1/10
R111	RRJ6GCJ102TE	1K 1/10
R112	RRJ6GCJ4R7TE	4.7 1/10
R113	RRJ6GCJ563TE	56K 1/10
R114	RRJ6GCJ103TE	10K 1/10
R115	RRJ6GCJ272TE	2.7K 1/10
R116	RRJ6GCJ000TE	0
R201	RRJ6GCJ103TE	10K 1/10
R202	RRJ6GCJ682TE	6.8K 1/10
R203	RRJ6GCJ184TE	180K 1/10
R204	RRJ6GCJ183TE	18K 1/10
R206	RRJ6GCJ332TE	3.3K 1/10
R207	RRJ6GCJ363TE	36K 1/10
R208	RRJ6GCJ184TE	180K 1/10
R209	RRJ6GCJ102TE	1K 1/10
R210	RRJ6GCJ473TE	47K 1/10
R211	RRJ6GCJ102TE	1K 1/10
R212	RRJ6GCJ4R7TE	4.7 1/10
R213	RRJ6GCJ563TE	56K 1/10
R214	RRJ6GCJ103TE	10K 1/10
R215	RRJ6GCJ272TE	2.7K 1/10
R216	RRJ6GCJ000TE	0
R301	RRJ6GCJ220TE	22 1/10
R302	RRJ6GCJ220TE	22 1/10
R303	RRJ6GCJ101TE	100 1/10
R304	RRJ6GCJ184TE	180K 1/10
R305	RRJ6GCJ392	3.9K 1/10
R306	RRJ6GCJ222TE	2.2K 1/10
R307	RRJ6GCJ103TE	10K 1/10
R308	RRJ6GCJ472TE	4.7K 1/10
R309	RRJ6GCJ683TE	68K 1/10
R310	RRJ6GCJ4R7TE	4.7 1/10
R311	RRJ6GCJ4R7TE	4.7 1/10
R312	RRJ6GCJ363TE	36K 1/10
R316	RRJ6GCJ332TE	3.3K 1/10
R317	RRJ6GCJ392	3.9K 1/10
R318	RRJ6GCJ331TE	330 1/10
R319	RRJ6GCJ682TE	6.8K 1/10
R320	RRJ6GCJ222TE	2.2K 1/10
R321	RRJ6GCJ270TE	27 1/10
R322	RRJ6GCJ102TE	1K 1/10
R324	RRJ6GCJ103TE	10K 1/10
R325	RRJ6GCJ183TE	18K 1/10
R401	RRJ6GCK1R5TE	1.5 1/10
R402	RRSA39JR30BH	0.3 1/4
R403	RRSA39JR50BH	0.5 1/4
R404	RRSA39JR40BH	0.4 1/4
R405	RRJ6GCJ242TE	2.4K 1/10
R406	RRJ6GCJ242TE	2.4K 1/10
R407	RRJ6GCJ184TE	180K 1/10
R408	RRJ6GCJ100TE	10 1/10
CAPACITORS(VALUE,VOLTAGE)		
C1	RCUV1H101K	100P 50
C3	RCUV1H220KC	22P 50
C4	RCUV1H150KC	15P 50
C5	RCUV1H220KC	22P 50
C6	RCUV1E103MD	0.01 25
C7	RCUV1E223MD	0.022 25
C8	RCUV1E103MD	0.01 25
C9	RCUV1H101K	100P 50
C10	RCUV1H150KC	15P 50
C11	RCUV1E103MD	0.01 25
C12	RCUV1E103MD	0.01 25
C13	RCUV1E103MD	0.01 25
C14	RCUV1H103ZF	0.01 50
C16	RCUV1H070DC	7P 50
C17	RCUV1H103ZF	0.01 50
C18	ECEA0JK220	22 6.3
C19	ECUV1E333MD	0.033 25
C20	RCUV1E223MD	0.022 25
C21	RCUV1E223MD	0.022 25
C22	ECEA1CK100L	10 16
C23	RCUV1E223MD	0.022 25
C24	RCUV1H102MD	0.001 50
C25	ECUV1E333MD	0.033 25
C26	RCUV1H101K	100P 50
C27	RCUV1H470KC	47P 50
C28	RCSE0GT475LE	4.7 4
C29	RCSE1ET474RE	0.47 25
C30	RCSE1VT224RE	0.22 35
C31	RCSE1VT224RE	0.22 35
C32	RCUV1E822MD	0.0082 25
C33	RCUV1E822MD	0.0082 25
C34	ECUV1H102KC	0.001 50
C35	RCSE1ET474RE	0.47 25
C36	RCSE1VT224RE	0.22 35
C37	RCUV1H050DC	5P 50
C38	ECEA0GK221I	220 4
C39	RCUV1H221K	220P 50
C42	RCUV1E104ZF	0.1 25
C101	ECEA0GKS470L	47 4
C102	RCUV1E223KD	0.022 25
C103	RCUV1H681K	680P 50
C104	RCUV1H681K	680P 50
C105	RCSE1CT105RE	1 16
C106	RCUV1H472MD	0.0047 50
C107	ECUV1E333MD	0.033 25
C108	RCUV1H472MD	0.0047 50
C109	RCSE1VT154RE	0.15 35

D

Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.
C110	RCSE1ET474RE	0.47 25	C212	ECEA1HKS010L	1 50	C315	RCSE1AT225RE	2.2 10
C111	RCSE0GT475LE	4.7 4	C213	RCUV1H102MD	0.001 50	C316	ECEA1HKS2R2	2.2 50
C112	ECEA1HKS010L	1 50	C214	ECUV1E104MD	0.1 25	C317	RCSE1CT105RE	1 16
C113	RCUV1H102MD	0.001 50	C215	ECEA0GK2211	220 4	C318	ECUV1E104MD	0.1 25
C114	ECUV1E104MD	0.1 25	C216	RCUV1E103MD	0.01 25	C319	ECUV1E104MD	0.1 25
C115	ECEA0GK2211	220 4	C217	RCUV1H222MD	0.0022 50	C320	ECSF0JE106B3	10 6.3
C116	RCUV1E103MD	0.01 25	C301	ECEA0GK2211	220 4	C321	ECUV1C105ZF	1 16
C117	RCUV1H222MD	0.0022 50	C302	RCUV1H102MD	0.001 50	C322	RCUV1H102MD	0.001 50
C201	ECEA0GKS470L	47 4	C303	ECEA1CKS100	10 16	C323	ECUV1C105ZF	1 16
C202	RCUV1E223KD	0.022 25	C304	ECEA0GKS470L	47 4	C324	ECEA1CKS100	10 16
C203	RCUV1H681K	680P 50	C305	ECEA0GKS470L	47 4	C325	ECEA0GKS470L	47 4
C204	RCUV1H681K	680P 50	C306	ECEA0DV561ZI	560 2	C326	ECEA0GK470	47 4
C205	RCSE1CT105RE	1 16	C307	ECEA0JK220	22 6.3	C327	ECUV1H331K	330P 50
C206	RCUV1H472MD	0.0047 50	C309	ECEA0DV102ZI	1000 2	C328	RCUV1H221K	220P 50
C207	ECUV1E333MD	0.033 25	C310	ECEA1CKS100	10 16	C330	RCUV1H102MD	0.001 50
C208	RCUV1H472MD	0.0047 50	C311	RCSE1CT105RE	1 16	C332	RCUV1H221K	220P 50
C209	RCSE1VT154RE	0.15 35	C312	ECEA1HKS010L	1 50	C340	RCUV1H102MD	0.001 50
C210	RCSE1ET474RE	0.47 25	C313	ECEA0GK470	47 4	C345	ECUV1H101K	100P 50
C211	RCSE0GT475LE	4.7 4	C314	RCSE1AT225RE	2.2 10	C401	RCSE0JT335RE	3.3 6.3
						C402	RCSE0GT475LE	4.7 4

■ ELECTRICAL PARTS LIST

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC1	AN7202S	I.C. FM FRONT
IC2	BA4230AFT	I.C. FM/AM IF AMP
IC3	BA1362FT	I.C. FM MPX
IC4	TA7795FT	I.C. PRE/EQ AMP
IC5	AN7375NS	I.C. DOLBY NR
IC6	LA4535MAT	I.C. POWER AMP
IC7	LA4537MT	I.C. XBS AMP
IC8	AN6653S	I.C. MOTOR CONT
TRANSISTORS		
Q2	2SK160K5TX	TRANSISTOR
Q3	2SC2295CTW	TRANSISTOR
Q4	RVTFMG3	TRANSISTOR
Q5	UN2119TX	TRANSISTOR
Q6	RVTFMG3	TRANSISTOR
Q7	RVTFMG1TX	TRANSISTOR
Q8	2SB956STW	TRANSISTOR
Q9	2SD601STX	TRANSISTOR
Q10	2SD1048X7TX	TRANSISTOR
Q11	2SD1048X7TX	TRANSISTOR
Q12	2SD601STX	TRANSISTOR
Q13	RVTFMG3	TRANSISTOR
DIODES		
D1	MA341TX	DIODE
D2	MA724TW	DIODE
D3	MA151WATX	DIODE
D4	RVDSB0505CPX	DIODE
D5	RVDSLC22C	DIODE
VARIABLE RESISTORS		
VR1	EVNA6AA00B14	V.R. FM VCO
VR101	EVNA6AA00B52	V.R. PLAYBACK
VR102	RVV2H5C54-A	V.R. VOLUME
VR201	EVNA6AA00B52	V.R. PLAYBACK
VR303	EVNA6AA00B23	V.R. TAPE SPEED
VR501	RVV8K2C25-H	V.R. G.EQ
VR501~503	RVV8K2C25-H	V.R. G. EQ

Ref. No.	Part No.	Description
VARIABLE CAPACITORS		
TC1	ECRLA010A12	TRIMMER
TC2	ECRLA010A12	TRIMMER
TC3	ECRLA010A12	TRIMMER
TC4	ECRLA006A12	TRIMMER
VC1	RCV4PC9D4-M	V.C.
COILS AND TRANSFOMERS		
L1	RL04Y165-0	COIL
L2	RL04Y166-0	COIL
L3	RLF2N26-0	BAR ANTENNA
L4	RL02A29-M	COIL
L6	RLQUR63K	COIL
L7	RL09A12-M	COIL
L8	RLQZZ1011	COIL
T1	RLI4A42-M	I.F.TRANSFORMER
T2	RLI2A40-M	I.F.TRANSFORMER
T3	RLI4A42-M	I.F.TRANSFORMER
COMPONENT COMBINATIONS		
Z1	RXABPMB8C	COMPONENT COMBINATION
FILTERS		
CF1	RVF107TNWMZ3	CERAMIC FILTER
CF2 (Z)	RVFPFA455A	CERAMIC FILTER
CF2 (ZE)	RVFPFA468A	CERAMIC FILTER
SWITCHES		
S1	RSH1A87ZA-H	SW, FWD/REV
S2	RSH1B21YA-M	SW, FF/REW
S3	RSH1B21YA-M	SW, PLAY
S4	RSS2B56XA-A	SW, DOLBY NR
S5	RSS2B56XA-A	SW, TAPE
S6	RSS2B56XA-A	SW, FUNCTION
S7	RSS3B32Z	SW, BAND
S500	RSS3A19YA-L	SW, XBS
JACKS		
J1	RJJB2Z	JACK, DC IN
J2	RJJD3S5Z	JACK, HEADPHONE

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